

The i-7540D CAN-Ethernet Gateway

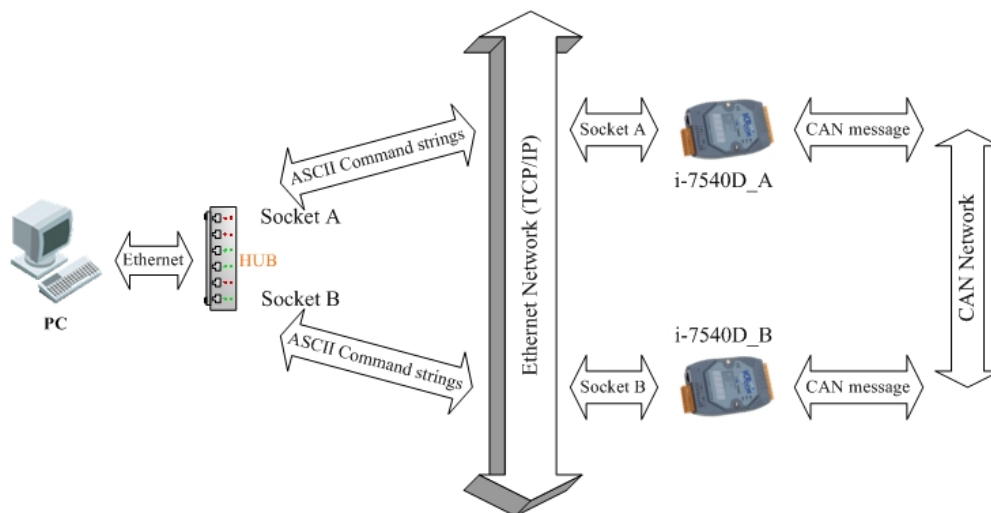
Quick Start User Guide

1. Introduction

This manual introduces the user to the methods used to implement the i-7540D module into their applications in a quick and easy way. This will only provide with the basic instructions. For more detailed information, please refer to the i-7540D user manual located on the ICPDAS CD-ROM or download it from the ICPDAS web site:

[Fieldbus_CD:\CAN\Converter\i-7540D\](file:///C:/Fieldbus_CD/CAN/Converter/i-7540D/) or
http://www.icpdas.com/products/Remote_IO/can_bus/i-7540.htm

The goal of this manual is focused on helping users to quickly familiarize themselves with the i-7540D module and the CAN-Ethernet communication gateway. Here, we use two i-7540D modules (called the i-7540D_A and the i-7540D_B) as the example will demonstrate how to use the i-7540D modules. The architecture of this example is depicted below.

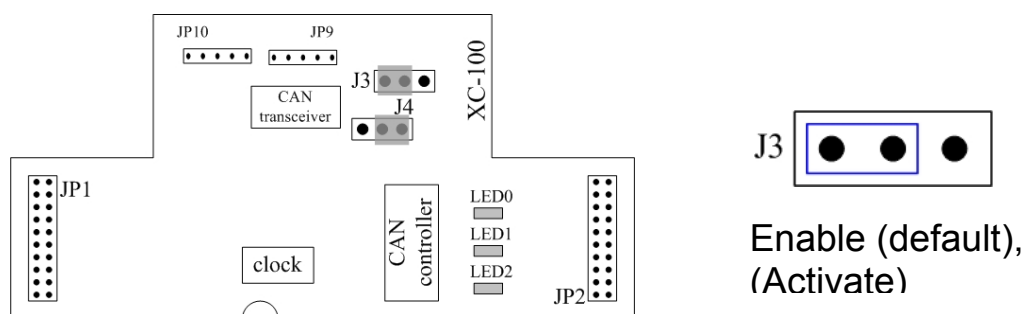


When the i-7540D receives a valid message, with the ASCII strings format from Ethernet port, it converts this message into a CAN message and transmits it into the CAN network. Based on the same reasoning, when a CAN message is received via the i-7540D, the CAN message will be transferred to a message by using the ASCII strings format through the Ethernet port.

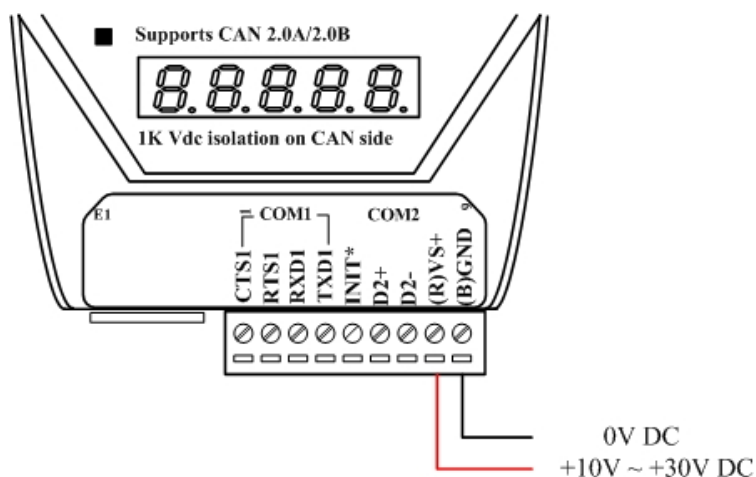
2. Hardware Installation

Users need to make a hardware connection between the CAN devices before the application. The details of this are illustrated below:

Step1: Set-up the 120Ω terminator resistor of module A and B. Before you continue, if you have changed the settings from default then it is necessary to open the cover for each i-7540D and re-configure their JP3 jumpers to enable them again, as shown in below figure. However if the i-7540D's still have their default settings then it is not necessary to open and reset them because the default configuration is enabled.



Step2: Power connection for the i-7540D_A and i-7540D_B. Connect the (R)Vs+ and (B)GND pins of the i-7540D module to the DC power supply (10~30VDC).

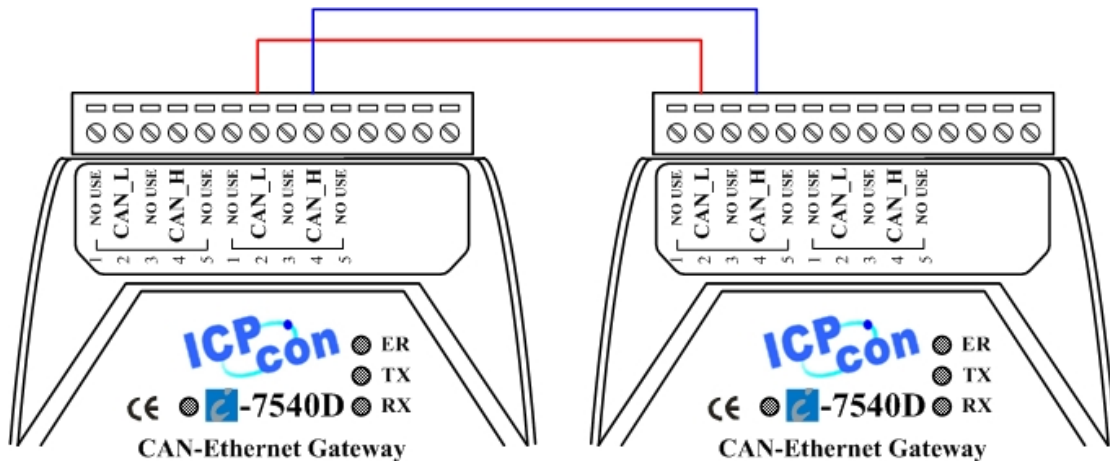


Step3: Ethernet port connection:

Connect the Ethernet ports of the i-7540D_A, i-7540D_B and the PC to the hub with standard network cable respectively.

Step4: CAN bus connection:

Connect the CAN ports of these two i-7540D modules by using the following structure.



3. The i-7540D Parameters Configuration

Before starting the i-7540D gateway tests, users need to configure the Ethernet & CAN parameters via the i-7540D Utility tool. The details of this procedure are shown below.

Step1: The default network setting of the i-7540D is shown below.

IP: 192.168.255.1

Mask: 255.255.0.0

Gateway: 192.168.0.1

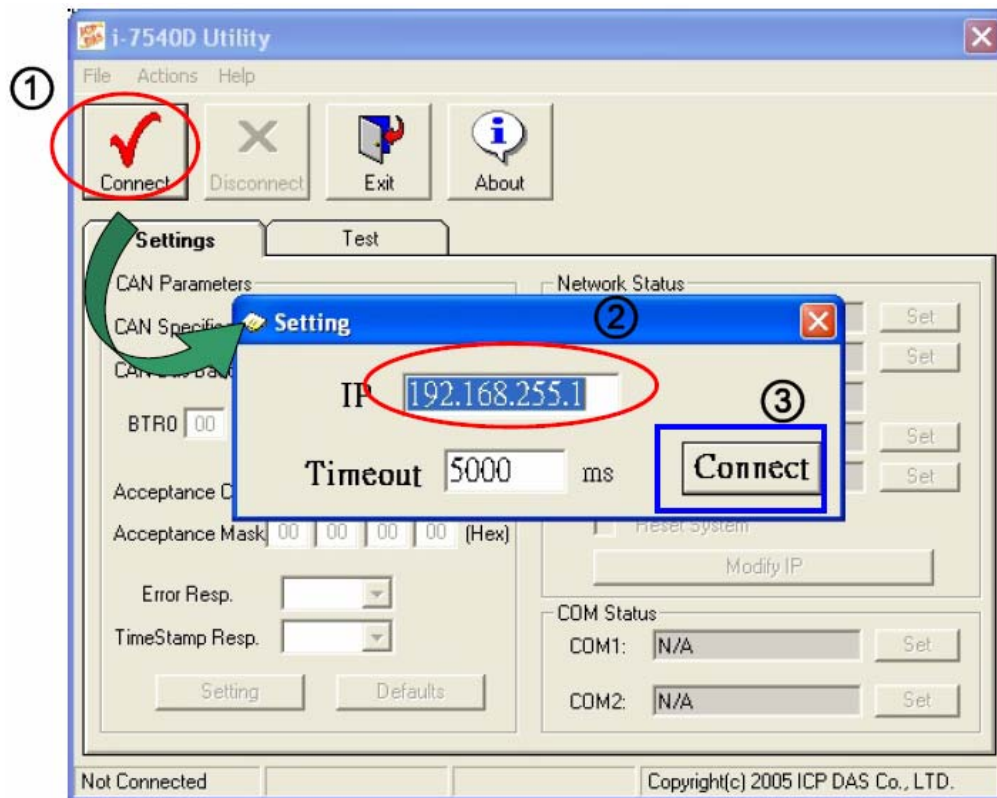
So, before communicate with the i-7540D, you must change the PC's local area network same as the i-7540D.

Step2: After changing the PC's local area network setting, you must use the i-7540D Utility to make the "IP" of these two i-7540D different to each other. The i-7540D Utility tool is located in the CAN_CD:\\can\\converter\\i-7540\\utility folder on the companion CD-ROM or can be downloaded from the web

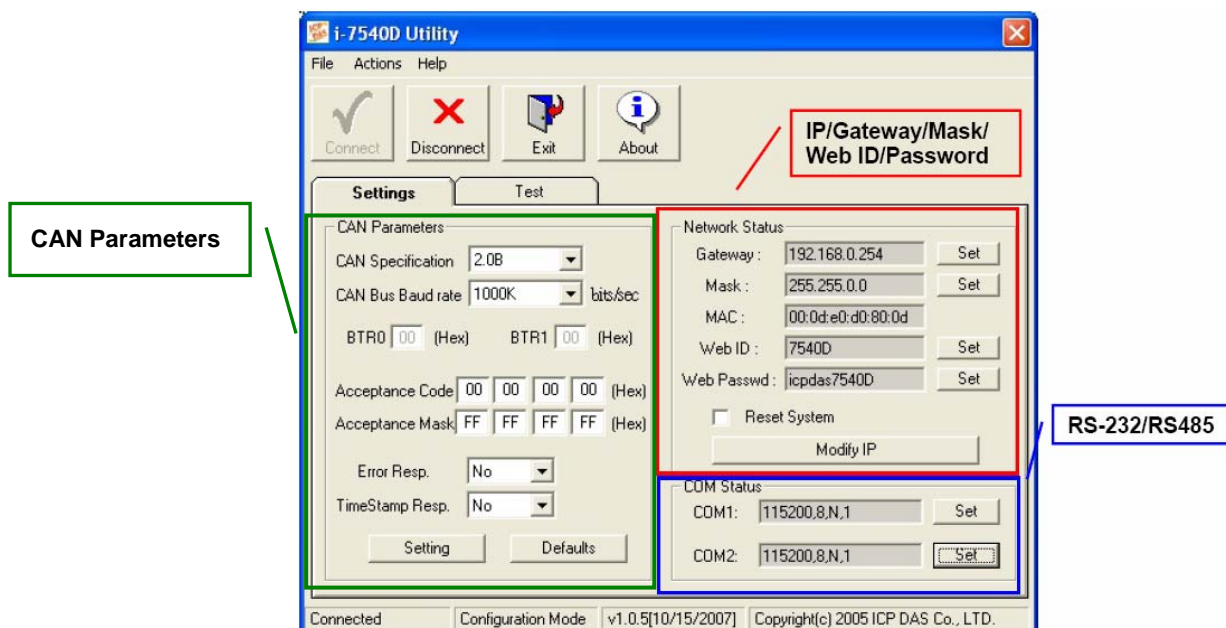
site:

http://www.icpdas.com/products/Remote_IO/can_bus/i-7540.htm

Step3: Click the “Connect” button to connect with the i-7540D_B. These steps are shown in the following figure.



Step4: Click the “Connect” button. If this process is successful, the i-7540D Utility shows the i-7540D_A communication information as below.



Step5: After connecting with the i-7540D_A, you can modify the CAN parameters and network status of it. The CAN parameters and network status of i-7540D_A and i-7540DB are setting as following table.

	i-7540D_A	i-7540D_B
CAN parameters	Specification: 2.0A CAN baud rate: 1M bps ACC: 00 00 00 00 ACM: FF FF FF FF Err Response: No Time-stamp Response: No	Specification: 2.0A CAN baud rate: 1M bps ACC: 00 00 00 00 ACM: FF FF FF FF Err Response: No Time-stamp Response: No
Network status	IP: 192.168.255.1 Mask: 255.255.0.0 Gateway: 192.168.0.1	IP: 192.168.255.2 Mask: 255.255.0.0 Gateway: 192.168.0.1

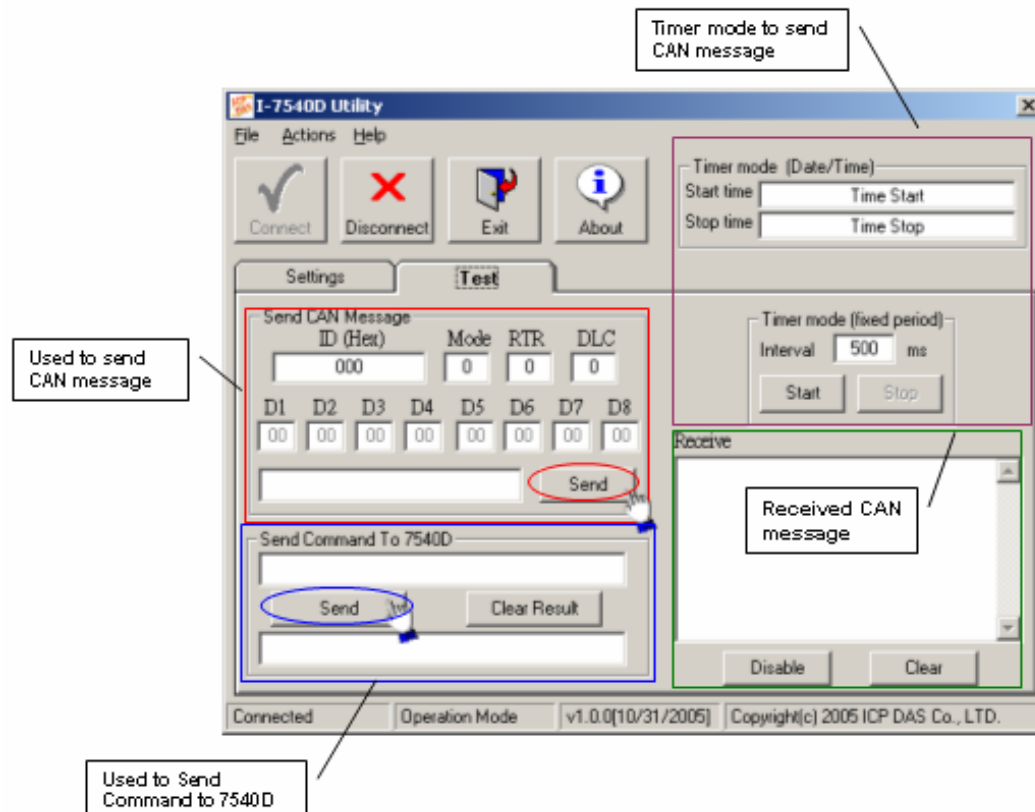
Note: The network status changed after resetting the system of these i-7540Ds.

4. Testing the i-7540D by using the i-7540D Utility

Step1: Run the i-7540D Utility, I7540D.exe, two times. Then duplicate i-7540D windows will be displayed on the screen. One is named as Utility A and the other is called Utility B.

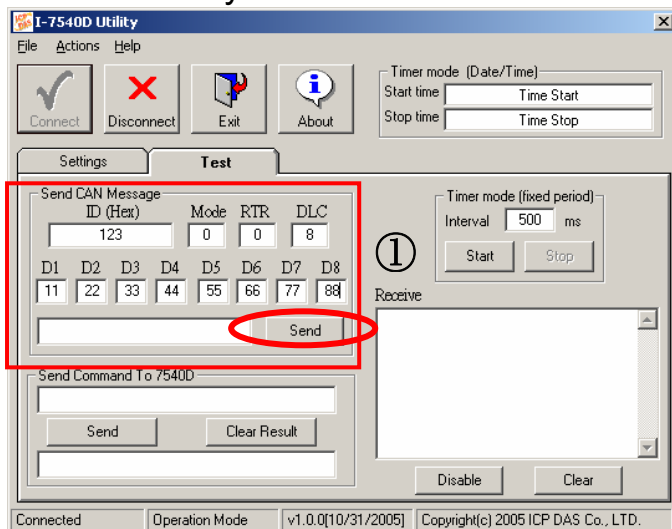
Step2: Click the “Connect” icon to open the connection dialog. Key-in the IP of these i-7540Ds and press the “Connect” button to connect with them.

Step3: After connecting with them, Utility A is shown in the below figure and Utility B will be similar to Utility A.

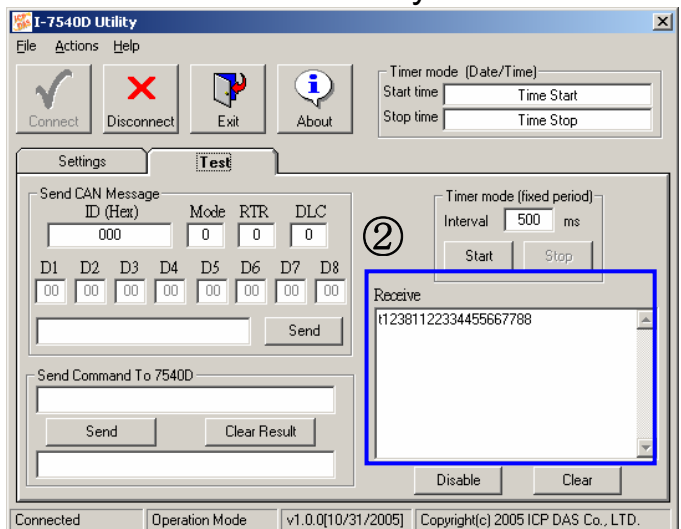


Step4: Check the “Use CAN Message” checkbox and input the value to the “CAN Message” frame on Utility A. Click the “Send” button. Then, the Utility will automatically transfer these CAN messages to the ASCII command string with ASCII 0x0d, and send it out through the PC’s Ethernet Socket_A port. After the i-7540D_A receives this command, It will transfer the ASCII message to the CAN message. So, the i-7540D_B will receive the CAN message transmitted from i-7540D_A. Then, convert this CAN message to the ASCII message and send it out to the Ethernet Socket_B port on the PC. Detailed steps of this are shown in the following figure.

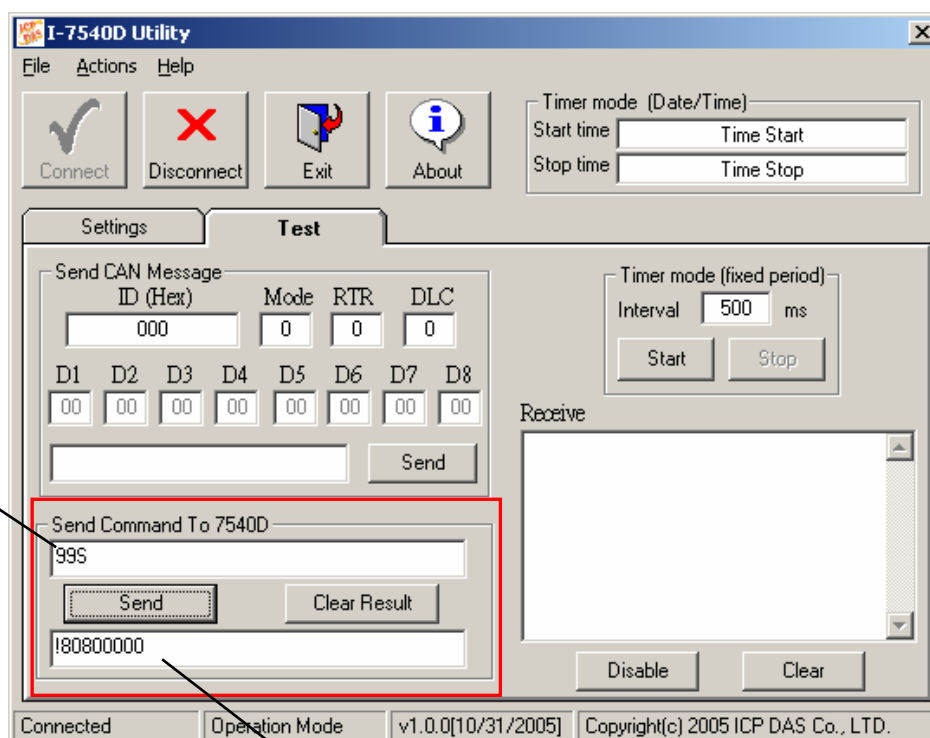
Utility A



Utility B



Step5: In “Send command to 7540D” frame, Users can directly type the ASCII command string, “99S”, “99C”, “99RA”, to get/set the status of the 7540D. The sample picture below is using command, “99S”, to get the module status of 7540D.



Send : 99S

Response : !80800000